

This listing of claims will replace all prior versions, and listings, of claims in the application:

The Status of the Claims

Claims 1-9 (canceled)

10. (new) A method of creating swing-joint intersections between sections of piping comprising:

selecting at least two pipe layout objects for swing-joint interconnection;
retrieving layout object data representing the selected at least two pipe layout objects;
retrieving design reference data representing a maximum jog-over distance;
selecting a first one of the at least two pipe layout objects, wherein the selected first pipe layout object has at least one non-terminated end;
calculating a swing-distance between the selected first pipe layout object and each of the non-selected pipe layout objects;
comparing each calculated swing-distance to the maximum jog-over distance to determine a group of target pipe layout objects;
selecting one of the target pipe layout objects from the group of target pipe layout objects; and
generating at least one swing-joint layout object interconnecting the selected first pipe layout object and the selected target pipe layout object.

11. (new) A method as defined in claim 10, further comprising storing layout object data representing the swing joint layout object.

12. (new) A method as defined in claim 10, further comprising displaying image data representing the selected at least two pipe layout objects and the swing-joint layout object.

13. (new) A method as defined in claim 10, wherein the layout object data further includes functional data representing a layout objects function.

14. (new) A method as defined in claim 10, wherein selecting one of the target pipe layout objects further comprises rotating the selected one of the target pipe layout objects 180° so that its orientation is conducive to installation of a swing-joint.

15. (new) A method as defined in claim 10, further comprising consolidating the selected at least two pipe layout objects and the generated at least one swing-joint layout object.

16. (new) An apparatus for creating swing-joint layout objects displayed on a display device, the apparatus comprising:

a memory for storing layout object data representing at least two pipe layout objects;

an input device for specifying a maximum jog-over distance;

a processor for executing machine readable instructions, wherein the instructions

cause the processor to

retrieve layout object data from a storage,

select a first one of the at least two pipe layout objects, wherein the selected first pipe layout object has at least one non-terminated end,

calculate a swing-distance between the selected first pipe layout object and each of the non-selected pipe layout objects,

compare each calculated swing-distance to the maximum jog-over distance to determine a group of target pipe layout objects,

select one of the target pipe layout objects from the group of target pipe layout objects, and

generate at least one swing-joint layout object interconnecting the selected first pipe layout object and the selected target pipe layout object; and

a display device for displaying image data representing the selected first pipe layout object and the selected target pipe layout object.

17. (new) An apparatus according to claim 17, wherein the instructions further cause the processor to select one of the target pipe layout objects by rotating the selected one of the target pipe layout objects 180° so that its orientation is conducive to installation of a swing-joint.

18. (new) An apparatus according to claim 17, wherein the instructions further cause the processor to consolidate the selected at least two pipe layout objects and the generated at least one swing-joint layout object.